Abstracts from Current Literature

Medicine

Effectiveness of Methyl Testosterone Administered Orally. Eidelsberg, J. and Madoff, I.: *Am. J. M. Sc.*, 1941, **202**: 83.

The authors have studied the effect of the oral administration of methyl testosterone in a group of cases which included the following types: (*a*) primary treatment in a mild eunuchoid aged 18 years; (*b*) as maintenance therapy in a patient with hypopituitarism, associated with hypogonadism, who had already responded to parenteral testosterone proprionate; (*c*) as primary treatment in hypopituitarism with hypogonadism; (*d*) as primary treatment in 16 year and 22 year old eunuchs. The dose employed was from 100 to 150 mg. per day, administered by mouth. No toxic or gastro-intestinal effects were noted. The treatment was found to be satisfactory, whether used to maintain the effects of testosterone proprionate or as initial therapy. Testosterone effects were noted in all cases. The authors present visual proof in the form of photographs of the subjects before, during and after therapy. E. S. MILLS

A propos d'un cas d'endométriose du côlon sigmoide. Lefrançois, C.: *J. de l'Hotel-Dieu de Montréal*, 1941, **10**: 40.

Après avoir rapporté un cas d'endométriose du sigmoïde ayant simulé un cancer, l'auteur donne un bref résumé de cette curieuse maladie. C'est une néoplasie bénigne caractérisée par le développements aberrant de fragments de muqueuse utérine, portant le nom d'endométriôme lorsqu'elle constitute une tumeur. Soumise au cycle menstruel cette tumeur subit les mêmes variations histologiques que la muqueuse utérine; assez fréquente, apparaissant chez les femmes entre la trentaine et la ménopause, due à une greffe de fragments de muqueuse utérine, siégeant surtout dans l'utérus, la trompe, dans l'ovaire, dans le Douglas, à l'ombilic, à l'intestin, en particulier surtout sur le rectum et le colon sigmoide, et simulant de ce fait le cancer.

La symptomatologie est dominée par le fait suivant: "*Périodicité mensuelle des symptomes*", que ce soit des hémorragies, des douleurs, ou des crises d'obstruction intestinale. L'endométriose du rectum ou du colon est caractérisée par des hémorragies anales au moment des règles, et si la tumeur est volumineuse par des crises occlusives ou sub-occlusives; crises débutant à l'époque des menstruations.

Le traitement consiste en stérilisation temporaire ou définitive par la radiothérapie: mais l'auteur fait remarquer que le diagnostic étant fait la plus part du temps après l'exérèse chirurgicale, et par le pathologiste, ce traitement est rarement appliqué si ce n'est qu'après l'intervention à cause du danger de récidive. YVES CHAPUT

Laurence-Moon-Biedl Syndrome with Tetany. D'Abreu, F. and Ferriman, D.: *Brit. M. J.*, 1941, **1**: 157.

This is an account of a woman of 25 who was the oldest of seventeen children, of whom five were blind at birth. Fifteen of the children died young, so that there remained only the patient and one normal child at the time of the report. One normal child, normal as far as vision was concerned, had six toes on each foot. The patient had been very obese, but later developed tetany, and lost weight so that this cardinal symptom of the above syndrome was no longer present. She did not have mental deterioration nor polydactyly, two other of the five cardinal symptoms. But hypogenitalism was exhibited according to the authors, in the menstrual history, for although she began to menstruate at 11 the periods were scanty, infrequent and irregular. Examination of the eyes revealed atypical retinitis pigmentosa. The parents were not related.

Although the syndrome as exhibited in this patient was atypical, the authors state that this is not infrequent, and the presence of polydactyly in another child in the family who lacked the eye symptoms is suggestive. The familial incidence of the blindness plus the findings in the patient lead the authors to consider this as a true case of the Laurence-Moon-Biedl syndrome. MADGE THURLOW MACKLIN

The Incidence of Trichinosis in New York City. Most, H. and Helpern, M.: *Am. J. M. Sc.*, 1941, **202**: 251.

Examination of the bodies of 100 adults who died violent or sudden and unexpected deaths in New York City revealed a 22 per cent incidence of T. spiralis infestation. The tissues were studied by a combination of press, digestion, and histological methods, and it is of interest that the relative efficacy of the three methods in detecting positive cases of infestation was in the ratio of 8 to 21 to 11. Without the use of the digestion method the incidence would have been only 12 per cent. The muscle for digestion should be from the diaphragm. Random histological sections from a single small block will be invariably negative, despite strong clinical and laboratory evidence of the disease.

All three laboratory procedures described are simple and can be performed in any laboratory. E. S. MILLS

Surgery

Early Carcinoma of the Colon. Bargen, J. A. *et al.*: *Arch. Surg.*, 1941, **43**: 192.

In reviewing the results obtained by surgical treatment in a series of small cancers of the colon, the authors were impressed by the high proportion of instances in which the lesion recurred locally, after the growth had apparently been eradicated to the entire satisfaction of

both the surgeon and the pathologist. Careful histological examination of the excised surgical specimens showed that in each case the cancer had been removed in its entirety. In their series of 30 cases, 16 patients were alive and free from symptoms five years after operation; 5 had died of metastatic growths, and so-called recurrence had taken place in the remaining nine. The present study is based on an examination of the specimens which were removed at operation in these cases, with special reference to the condition of the mucous membrane surrounding the primary growth, in an endeavour to identify any potentially malignant changes. The authors conclude that a "potentially malignant" region exists in the colon prior to and coincidently with the development of cancer, and this region is considerably larger than the part which is occupied by the cancer itself. This region represents the reaction of the tissues to some extraneous influence. As it is an inflammatory reaction, the cells primarily concerned are the mesoblastic cells, which are the natural defensive cells of the body. The process of repair manifested by the epithelial cells may become disordered. This process of repair in cells removed from their normal situation may give rise to malignant anaplasia. G. E. LEARMONTH

The Treatment of Staphylococcic Infections with Thiazole Derivatives of Sulfanilamide. Beling, C. A.: *Am. J. Surg.*, 1941, **53**: 219.

A series of 130 cases (in 14 hospitals) of staphylococcic infections treated with thiazole and sulfamethylthiazole were used as material for the study. Because peripheral neuritis was reported as a complication of the latter drug the methylated derivative was only used in a few cases at the beginning. Staphylococci were identified in all cases though some infections were mixed. It was found that the most effective dosage was 2 g. initially then 1 g. every four hours for adults. Children were given 0.5 g. per 25 lbs. body weight followed by 0.25 g. every four hours, though in certain cases larger doses were necessary, to maintain a blood level of 4.0 to 6.0 mg. per cent. The drug was given intravenously only when oral administration was impossible since the sodium salt has a pH of 10.4 in 10 per cent solution. The adult dose was 2 to 3 g. given slowly over fifteen minutes. The dangers were those of thrombosis and on repetition laking of red blood cells. The drug was not well absorbed when given by rectum. Sulfathiazole was also used locally both dissolved in saline and as a powder, with success in enabling closure of a potentially infected wound without drainage. The excretion of thiazole is more rapid than that of sulfanilamide or pyridine and so must be given every four hours. Complications were generally not serious. Drug fever may occur after the sixth day and may be of a steady or septic type. Skin rashes were not common and patients were not photosensitive. "Pink-eye" occurred in three patients. Hæmaturia was rare though crystals in the urine were commonly found. Nausea occurred in 27 per cent. The author advises against withdrawing the drug because of nausea, headache, crystalluria, skin rashes or conjunctival reactions. The drug should be stopped if hæmaturia increases, hyperpyrexia, neuritis, leukopenia, or acute anæmia develops. By maintaining an adequate blood level and using the drug until fever was absent for four days, 116 out of the 130 cases improved. The failures occurred in patients who were seen late with many lesions already present. Pus must be drained. The cause of infection must be eliminated (*e.g.*, urinary stone). Most dramatic results are obtained in septicæmia and face infections. The drug cannot be used carelessly for thiazoles are potentially dangerous. BURNS PLEWES

Obstetrics and Gynæcology

Chronic Nephritis and Pregnancy Fatalities in Philadelphia. Paxson, N. F.: *Am. J. Obst. & Gyn.*, 1940, **40**: 995.

The analysis of 44 fatal cases of chronic nephritis complicated by pregnancy shows that two-thirds of the primary mortality is preventable, of which two-thirds are due to lack of prenatal care and ignorance of the patient, and one-third due to errors of judgment on the part of the physicians. The chief error in medical care was failure to recognize the seriousness of the situation and failure to terminate pregnancy promptly.

In addition to the usual symptoms of the disease, the frequency of obesity and hæmorrhage is demonstrated as serious complicating factors. The failure to study eye-grounds is noted, with the recommendation that an ophthalmoscope should be part of the standard equipment of a maternity doctor, and that the eye-grounds should be studied by the obstetricians.

A minimum standard is offered for the diagnostic study and evaluation of the disease with definite indications for the termination of pregnancy. ROSS MITCHELL

Desmoblastoma Ovarii Malignum. Solomons, B. and Dockeray, G. C.: *J. Obst. & Gyn. of the Brit. Emp.*, 1940, **47**: 451.

The ovarian tumour described is an exceedingly rare type to which Schiller has given the name of "Desmoblastoma ovarii malignum". A reference is made to other cases and authors are mentioned and photographs of tumours are shown.

Histological examination of such a primary tumour showed that it was composed of three kinds of tissue: (1) a myxomatous connective tissue poor in cells; (2) a sarcoma-like tissue consisting of large cells; (3) small islands of typical hyaline cartilage.

Microscopically, the tissue consists of a loose connective tissue which in most places contains masses of large, deeply staining cells having a close resemblance to granulosa cells. The most conspicuous features, histologically, are numerous cartilaginous islets scattered in an irregular manner throughout the section. These cartilaginous islands stand out very clearly in sections stained with polychrome methylene blue, in which the cartilage appears crimson and the surrounding cells blue. In some places are tubules, such as are found in the rete ovarii and in arrhenoblastoma. In a few areas are numerous dilated thin-walled blood spaces and some areas are necrotic and infiltrated with inflammatory cells.

The embryonic nature of this tumour can be better understood by referring to sections taken through the pelvic nephrogenic region of a young fetus of about 14 mm. Various developments of mesodermic tissues are then seen.

P. J. KEARNS

Unilateral Twin Tubal Pregnancy with Coincident Intra-uterine Pregnancy. Browne, O'D.: *J. Obst. & Gyn. of the Brit. Emp.*, 1940, **47**: 673.

The author reports a combined intra-uterine and tubal pregnancy, which is regarded as a somewhat unusual obstetrical entity. A reference to similar cases in the literature is also given.

In this particular case it would seem that both Fallopian tubes had been inflamed before pregnancy occurred, possibly secondary to the appendicitis. It may also be suggested that whereas the left tube had either escaped without occlusion of its fimbrial end, or this end had subsequently overcome any plastic reaction and allowed the ovum or ova to enter, the right tube had either suffered more severely or had not recovered as rapidly. It is also quite possible that the right tube may have been open and normal when either of the pregnancies began but later became occluded either as a result of aseptic irritation from regurgitated blood from the intra-uterine abortion or by persistent leakage from the tube of the opposite side into the uterine cavity before the intra-uterine abortion took place.

P. J. KEARNS

A Granulosa-cell Tumour of the Ovary with Remarkable Hyperplasia of the Uterus. Russell, P. M. G.: *J. Obst. & Gyn. of the Brit. Emp.*, 1940, **47**: 669.

The author describes a granulosa-cell tumour of the ovary which had probably been present for about 4 years, so that its endocrine action was pronounced. Other pathological conditions—namely, tuberculosis of the Fallopian tube and a parovarian cyst—were present.

A nullipara aged 67, who suffered from mild delusional insanity, was noted in April, 1935, as having "menstruated on 36 days during the last 4 months". The uterus was not enlarged, but no other abnormality in the pelvis was found. In June, 1935, the patient started to have a blood-stained discharge and the uterus was found to be slightly enlarged. In November, 1935, profuse uterine bleeding occurred and this continued at intervals during the following year. In June, 1937, œdema of the left leg appeared and the bleeding was now almost continuous and often severe.

Irregular bleeding continued till September, 1939, and a firm mass was felt rising from the pelvis somewhat to the right of the midline. On pelvic examination an enlarged uterus was felt drawn upwards by a solid tumour lying to the right of it. The cervical canal was dilated and through it projected a large polypus. Blood was seen issuing from the uterus.

A tentative diagnosis of granulosa-cell tumour was made. As the case occurred in the early days of the war blood and urinary œstrone estimations were difficult to arrange and were dispensed with.

At operation the uterus was found to be enlarged to about the size of a 12 weeks' to a 14 weeks' gestation, and a lobulated ovarian tumour, somewhat adherent, was present on the right side. There was a small nodule of what appeared to be growth in the right Fallopian tube and a parovarian cyst, the size of a hen's egg on the left side. Ascites or other signs of metastasis were absent. Total hysterectomy and bilateral salpingo-oophorectomy were performed.

Convalescence was uneventful. The mammæ did not secrete after operation. The delusions remained unaltered.

P. J. KEARNS

The Advantages of Conservative Obstetrics as Shown by Examination Within Six Weeks Post Partum. Nelson, H. B. and Abramson, D.: *Am. J. Obst. & Gyn.*, 1941, **41**: 800.

Two thousand consecutive admissions to the Boston Lying-in-Hospital have been studied. Emphasis is placed on conservatism in obstetrics as being most instrumental in the future well-being of the patient. A morbidity of 5.5 per cent is reported. Analgesics in labour are recommended. Manual dilatation of the cervix is discouraged. The incidence of operative obstetrics has been kept very low.

Episiotomy, preferably median, is encouraged as a routine procedure. Immediate repair of the cervix except in cases of hæmorrhage is considered as unnecessary and creating an unnecessarily high morbidity. The use of vaginal douches, silver nitrate, and the electrocautery is encouraged.

Third-degree retroversions should be treated only when symptomatic and then by the use of the Smith-Hodge pessary before resorting to surgery. The bladder should be watched carefully during labour and immediately afterwards and treated to prevent atonicity.

ROSS MITCHELL

The Endometrium in Tuberculous Peritonitis and in Sterility. Jensen, R. M. and McDonald, J. R.: *Am. J. Obst. & Gyn.*, 1941, **41**: 268.

In 2, or 8 per cent, of 25 cases of sterility studied tuberculosis of the uterus was encountered. The incidence of tuberculous endometritis in the 25 uteri from parous women studied was 4 per cent. However, in the 25 cases of tuberculous peritonitis studied in which the uterus was surgically removed tuberculous involvement of the uterus was found in 60 per cent.

Endocervical tuberculosis was found more frequently than has been described previously. It seems likely, therefore, that if more extensive histological study were made of the endometrium in routine curettings and hysterectomies the incidence of tuberculosis on the uterus would be found to be much higher.

ROSS MITCHELL

The Immediate Treatment of Obstetric Hæmorrhage and Shock. Gordon, C. A.: *Am. J. Obst. & Gyn.*, 1940, **41**: 1056.

Restoration of blood volume is logical, since in no other way can circulatory efficiency be maintained. Plasma or serum are ideal substitutes for blood. Simple and easy to prepare, no typing or cross matching is necessary, and either may be given repeatedly in large amounts without fear of untoward reaction. A plasma bank is practicable for even the smallest hospital, while a blood bank is not. The rôle of hæmorrhage in death from sepsis is an important one. We should be prepared for hæmorrhage and shock before, during and after every labour we conduct. ROSS MITCHELL

Oto-rhino-laryngology

The Mechanism of Acustico-lateral Sense Organs in Fishes, with special Reference to Problems in the Physiology of the Semicircular Canals. Sand, A.: *J. Laryn. & Otol.*, 1940, **55**: 449.

This article is a description of the action of the cells comprising the lateral line organs of the elasmobranch fishes and a comparison of their action with that of the apparently similar hair-cells of the semicircular canals and cupula. The work was done on the semicircular canals of Raia fishes, and the electrical discharges from the nerves supplying these cells were measured. The following observations were recorded, which the author feels are applicable to the similar problems arising in mammals, more especially the human being.

The activity of the horizontal canals is confined to planes near the horizontal. The vertical canals are active in all planes and work together in antagonistic pairs, but the pairs are different and specific for each of the three primary axes of rotation. With each axis of rotation any given canal has a different partner. During rotation about the longitudinal axis the vertical canals are laterally synergic; during rotation about the transverse axis they are transversely synergic; and during rotation about the vertical axis they are diagonally synergic. The tonic action of the semicircular canals is due to spontaneous activity of the hair-cells which discharge a persistent rhythm of afferent impulses in the absence of external stimulation. The two-way response of an individual semicircular canal whose discharge is increased by rotation in one direction and inhibited by rotation in the opposite direction provides a basis for the interpretation of the persistence of reflex responses to opposite sense of rotation in animals after unilateral extirpation of the labyrinth. Excitation of the crista of the horizontal ampulla is evoked by ipsilateral acceleration and contralateral deceleration and inhibition by contralateral acceleration and ipsilateral deceleration, but owing to the physical properties of the cupula the effects persist for about half a minute after acceleration or deceleration has given place to constant angular velocity or the stationary state, and thus a peripheral mechanism is provided which is adequate to account for the origin and duration of nystagmus and after-nystagmus.

GUY H. FISK

Bleeding from the Ear as a Sign of Leaking Aneurysm of the Extracranial Portion of the Internal Carotid Artery. Young, N.: *J. Laryn. & Otol.*, 1941, **56**: 35.

The author reports in detail 2 cases of his own and in outline 26 cases of others from which he delineates a syndrome referable to erosion of the internal carotid artery with aneurysm formation. The condition occurs in young children, probably because the precursors are commonest in such children and because the retropharyngeal and lateral pharyngeal glands have not yet atrophied. The syndrome is found only with erosion of an aneurysm of the carotid. The sequence of events is thought to be first some pharyngeal or cervical infection including a dental one followed by abscess of the parapharyngeal space. This is followed by erosive aneurysm of the carotid with fistula formation to the external auditory meatus. The signs and symptoms of the condition are as follows—a history of some causative affection; swelling behind the angle of the jaw; vague throbbing pain over the swollen area. Then a sharp lancinating pain in the ear followed by a profuse hæmorrhage from the external auditory meatus. There is a temperature of about 102° F. Treatment is by transfusion, ligation of the internal carotid artery, packing of the neck wound, the end-result of which should be a vessel surrounded by firm fibrous tissue. GUY H. FISK

Radiology and Physiotherapy

Roentgen Irradiation of the Pelvis in Carcinoma of the Cervix Uteri. Stone, R. S. and Robinson, J. M., *Radiology,* 1941, **36**: 521.

In the plan of treatment now in use the lesion in the cervix is irradiated by radium. The roentgen rays are directed primarily to the regions of direct extension and to the lymph nodes.

From 30 to 50 per cent of patients with operable lesions have involvement of the lymph nodes. From 10 to 20 per cent of patients with small local lesions, without parametrial involvement, have metastases in the lymph nodes. Therefore, not only those patients with large lesions but also those with small ones should have treatment with x-rays, unless a radical Wertheim operation is to be performed.

Ninety per cent of lymphatic involvement occurs in the primary nodes, which consequently must be included in the regions irradiated. These primary nodes are: (*a*) the hypogastric —beside the hypogastric artery just below the bifurcation of the common iliac artery; (*b*) the obturator, on the obturator nerve near the femoral ring; (*c*) the iliac nodes, along the external iliac artery at and below the bifurcation of the common iliac artery; (*d*) the sacral nodes, on the anterior surface of the sacrum; (*e*) the parametrial nodes, including the ureteral nodes. Direct extension of the cancer into the parametrium and vagina may occur, and fields must include these structures.

Accurate aiming of the beam is as important as selecting the fields on the skin and the amount of radiation to be given. Technicians should not be given this responsibility.

The amount of irradiation given should be all that the normal tissues can tolerate. Six fields produce the best internal distribution of the radiation.

Five-year survivals of patients treated by a combination of radium and x-rays from a 200 kv. unit (H.V.L. 1.05 Cu) indicate that the growth of the cancer is retarded or destroyed by x-rays. R. C. BURR

Treatment of Laryngeal Cancer by Irradiation. Quick, D.: *Am. J. Roentgenol. & Radium Therapy,* 1941, **46**: 11.

Carefully done roentgen therapy offers an excellent chance for cure in laryngeal cancer uncomplicated by previous treatment. The author uses a distance of 80 cm. and 200 kv. with filtration of 2.32 mm. Cu. The dosage in roentgens per minute is 6 to 7 r. He begins with a low, initial, daily dose—50 r to each of two lateral fields which are around four by five cm. in size, gradually increasing to 75 r to the lateral and anterior fields until during the second week each of the three fields is receiving 100 r. This treatment is on the basis of five days a week. The daily dose of 300 r with the factors mentioned is the maximum daily dose.

This method is applicable to a larger group than is radical surgery. It is free from interim risk and results in complete restoration of function. There is a limit beyond which it is unsafe to increase the roentgen-ray dosage. With these cases resistant to roentgen irradiation, recurrences, and incompletely treated cases, laryngofissure plus radon implants or cautery offers a chance for further cure but without restoration of function in all except an occasional case.

Metastatic cervical nodes are treated by surgical exposure and radon implantation; their occurrence is infrequent. R. C. BURR

Roentgenologic Considerations in the Diagnosis and Treatment of Primary Malignant Bone Tumours. Howes, W. E. and Schenck, S. G.: *Radiology,* 1941, **37**: 1.

The analysis of 40 cases of primary malignant bone tumours, grouped according to the latest classification of the Registry of Bone Sarcoma, shows a majority of the patients younger than forty years and an average duration of symptoms before receiving treatment of about six and a half months.

The roentgen examination is shown to be of considerable importance and represents one of the surest methods of diagnosis. An attempt has been made to summarize the characteristics of each type of tumour, including the limitations and accuracy of roentgenography. Early roentgen surveys of any unexplained pain should be immediately followed by biopsy examination in doubtful cases. The therapeutic procedure cannot be standardized at this time. The results from radical surgery alone are disappointing. In this series the best results were obtained in those cases which received irradiation, usually in conjunction with surgery.

R. C. BURR

Anæsthesia

Case Reports of Fatalities Following Intravenous Anæsthesia. Patterson, R. L.: *Current Researches in Anæs. & Anal.,* 1941, **20**: 225.

The author reports three cases which he considers will be of interest since the intravenous barbiturates have become so popular as a method of anæsthesia. The first was an elderly female diabetic with hypertensive heart disease and generalized arteriosclerosis. She had a painful swelling on the plantar surface of the left foot which had been present for two weeks. The blood sugar value had varied from 270 mg. to 250 mg. per 100 c.c. of blood. Incision and drainage of the left foot was attempted under evipal soluble anæsthesia. Only 4 c.c. were given and at first no depression was noted but shortly after the operation was started it was noted that the patient was having respiratory

difficulty and the radial pulse was not palpable. Respirations soon ceased and artificial respiration was started. Coramine and adrenalin were administered without response. The patient was pronounced dead 25 minutes after the anæsthetic had been started. A blood sample was taken and found to contain 250 mg. of sugar per 100 c.c. of blood.

The second case was also an elderly female with a history of rheumatic heart disease, mitral regurgitation and a record of two previous pulmonary emboli. She appeared to be well compensated at the time of admission but had developed an infection about the right lower second bicuspid tooth. As she was said to have an idiosyncrasy to novocaine it was decided to extract it under pentothal sodium anæsthesia. She was given pantopon gr. 1/3 one hour before the pentothal. Three c.c. of a 5 per cent solution of pentothal sodium, followed by two more when she did not relax, was the total dose employed. During the time she remained unconscious and tense but the tooth was extracted. After a deep expiration she did not breathe again. A free airway was maintained. Artificial respiration and coramine were of no avail but her heart continued to beat over three minutes after respiration had ceased. The patient died apparently from acute failure or paralysis of the respiratory centre. Death occurred five minutes after the administration of the anæsthetic was begun.

The third patient was a white male of 45 years who was admitted to the hospital with a painful swelling in the anterior portion of his neck. It was diagnosed as Ludwig's angina. There was no evidence of any respiratory difficulty in inspiration or expiration. It was decided that incision and drainage should be done that evening. Pentothal was chosen as the anæsthetic agent and a 5 per cent solution was employed. Five c.c. were injected for induction of the anæsthesia. After a pause of a minute or more the operation was started. Upon the patient moving his head slightly 3 c.c. more of the solution were injected. Several minutes later the patient became cyanotic and had difficulty in breathing. The operation was discontinued and artificial respiration was carried out without success. After five minutes the heart sounds and radial pulse were not perceptible. The patient was pronounced dead fifteen minutes after the beginning of the anæsthesia.

These cases indicate the necessity for careful selection of patients that may be considered suitable for anæsthesia by intravenous injection of the soluble barbiturate. They also indicate the necessity of having always available some very efficient means of barbiturate resuscitation. It is always a good plan to have oxygen or oxygen-carbon dioxide on hand when the soluble barbiturates are being given.

F. ARTHUR H. WILKINSON

Pathology and Experimental Medicine

Thrombocytopenia: A Confirmatory Report. Rose, H. and Boyer, L. B.: *J. Clin. Investigation,* 1941, **20**: 81.

Spleens from two patients with idiopathic thrombocytopenic purpura and from two control patients with no evidence of this disease were extracted according to the method of Troland and Lee. The splenic extracts were injected into healthy young male rabbits, the platelets of which had been counted and repeatedly checked beforehand. In the rabbits injected with extracts from the spleens of patients with idiopathic thrombocytopenic purpura, the platelets dropped markedly in number, whereas in rabbits injected with control extracts there was no appreciable drop. This confirms previous work indicating a platelet reducing substance in spleens of patients with idiopathic thrombocytopenic purpura.

S. R. TOWNSEND

The Pathogenesis of Azotæmia in Hæmorrhage from the Upper Gastro-intestinal Tract. Johnson, J. B.: *J. Clin. Investigation,* 1941, **20**: 161.

The author observed a marked rise in the non-protein and urea nitrogen of the blood in cases of severe upper gastro-intestinal hæmorrhage only when there was a temporary or permanent reduction in renal function. The duration of the azotæmia was 3 to 5 days after a single hæmorrhage, but was more prolonged when there were repeated hæmorrhages. No changes were observed in the serum chloride or in the plasma carbon dioxide-combining power. Whole blood in the upper gastro-intestinal tract is digested and absorbed, and results in the formation of urea. The pathogenesis of the azotæmia depends on a rate of urea formation which is in excess of the rate at which urea can be excreted by the kidneys. No definite correlation between the degree of azotæmia and the prognosis for recovery was found. The absence of azotæmia in some patients with massive hæmorrhage into the upper gastro-intestinal tract may be explained by the fact that the patients have normal renal function. In them the rate at which urea is excreted quickly equals the rate of increased urea production.

S. R. TOWNSEND

Calcium and Phosphorus Metabolism in Osteomalacia. XI. The Pathogenetic Rôle of Pregnancy and Relative Importance of Calcium and Vitamin D Supply. Liu, S. H. *et al.*: *J. Clin. Investigation,* 1941, **20**: 255.

The authors present data on calcium, phosphorus and nitrogen metabolism during the latter part of pregnancy which were obtained on ten subjects showing various states of skeletal store and vitamin D nutrition. Given

an adequate supply of vitamin D and calcium, patients with osteomalacia showed no inherent ability to retain minerals during pregnancy, compared with those with no skeletal depletion. The added requirement during gestation, unlike that in lactation, did not seem to go beyond fetal needs. However such needs had to be filled at the expense of the maternal tissue if the supply of vitamin D and minerals was inadequate. Under such circumstances pregnancy plays an important pathogenetic rôle in osteomalacia inasmuch as it hastens the skeletal demineralization. While calcium intake tends to ameliorate the effects of vitamin D deficiency, the latter conserves calcium. Of the two vitamin D is probably more important, provided a reasonable level of calcium intake is available. The calcium requirement during pregnancy is conditioned by the prior skeletal store, the previous dietary intake, and the state of vitamin D nutrition. S. R. TOWNSEND

Solitary Myeloma of Bone: Review of Roentgenologic Features, with Report of Four Additional Cases. Paul, L. W. and Pohle, E. A.: *Radiology,* 1940, **35**: 651.

After reviewing 41 cases of single osseous myelomas and then 4 additional cases the following conclusions were arrived at by the authors.

(1) Solitary bone myeloma cannot be considered rare. (2) Pathological reports indicate no essential difference between solitary and multiple forms of myeloma. (3) Roentgenologically there are two principal forms: (*a*) in one the resemblance to giant-cell tumour is striking; (*b*) in the other, osteolysis predominates but osseous expansion may be present. (4) Because the tumour may be relatively benign, strenuous efforts to eradicate it are warranted. (5) Solitary myeloma must be differentiated, roentgenologically, from giant-cell tumour, localized fibrocystic disease, malignant metastases, osteogenic sarcoma, Ewing's tumour, and some rare bone tumours. The age, incidence, location, symptomatology, and roentgen appearance aid in differentiation. Biopsy is indicated so that adequate treatment can be instituted. S. R. TOWNSEND

Hygiene and Public Health

Active Immunization Against Tetanus by Vaccination with Tetanus Toxoid. Circular Letter No. 34, Office of the Surgeon General, Washington, *J. Am. M. Ass.,* 1941, **116**: 2857.

The practice of the United States army with respect to tetanus toxoid inoculation is as follows: The initial vaccination consists of three subcutaneous injections of tetanus toxoid (plain) of 1 c.c. at 3 to 4 weeks' intervals. Under normal conditions one stimulating dose of toxoid will be administered at the end of the first year. In time of war a stimulating dose will be administered during the month prior to departure for a theatre of operations unless such departure is within a period of six months subsequent to the stimulating dose.

A stimulating dose of toxoid will be given: (1) to each person who incurs a wound or burn on the battlefield; (2) to patients undergoing secondary operations or manipulations when deemed advisable, and (3) to others who incur punctured or lacerated wounds which might be contaminated with *Clostridium tetani.*

Tetanus antitoxin will be used for the treatment of clinical tetanus or for the prevention of tetanus in persons not actively immunized with toxoid or to persons whose record of active immunization has been lost.

FRANK G. PEDLEY

Where Maternity Hazards are Still too High. *Stat. Bull., Metrop. Life Insurance Co.,* 1941, p. 6.

Maternal mortality has dropped about 40 per cent in the United States in the past ten years. In many places, however, it is still high. This is particularly true of the southern states. On the whole the lowest maternal mortality is found in the middle and north central states. Mortality is highest where hospitalization is lowest and where attendance by midwives is highest. This is not necessarily an indictment of lack of hospitalization or presence of midwives, but may be a reflection of economic conditions in general. Coloured women have about double the maternal mortality of white women, but this does not account for the high death rate in the south, for it is still high when only the white population is considered.

About two-fifths of deaths from puerperal causes occur before confinement. This in itself is an excellent argument for prenatal care.

FRANK G. PEDLEY

Tuberculous Infection Among Nurses and Medical Students in Sanatoriums and General Hospitals. Dufault, P.: *New Eng. J. Med.,* 1941, **224**, 711.

Before the time of Koch many physicians considered that the care of the tuberculous constituted a distinct risk for the attendants. Following the discovery of the tubercle bacillus there was a tendency to minimize the risk. Trudeau, for example wrote: "In the early days of the Sanatorium, and for the past ten years, many of our employees, dining room maids and so forth were, as far as I know, healthy people. To my knowledge none of these ever developed tuberculosis at the sanatorium". Since 1925, however, there has been a marked change in the medical viewpoint in this regard. The current belief is that there is a greatly increased risk of developing tuberculosis among nurses and doctors. A great mass of evidence has accumulated on this point.

The following table by Hedvall, of the University of Lund, Sweden, is illustrative of this evidence.

INCIDENCE OF TUBERCULOSIS IN THE DIFFERENT FACULTIES

	No. of persons examined	*No. of cases of tuberculosis found*	*Tuberculosis in different groups*
			percentage
Medical students ..	638	72	11.3
Philosophy students	1,367	17	1.2
Theology students .	409	12	2.9
Law students	488	9	1.8
Probationary nurses	434	23	5.3

Some authors stress the danger of infection in autopsy rooms. There is much evidence to show that a considerable number of bodies autopsied are tuberculous. This evidence too indicates that a good many patients of general hospitals are tuberculous. Many of them during life are not suspected of having tuberculosis. This in part may explain why some studies show a higher incidence of tuberculosis morbidity among general hospital nurses than among nurses in sanatoria for tuberculosis.

The author has made some studies of the immediate surroundings of tuberculous patients in an effort to determine the likeliest points of contamination. Droplet infection is obviously important. Even in sanatoria where patients are especially trained many patients cough without covering their mouths. Other patients cover their mouths with their hands and by means of the hands contaminate the objects they handle.

The author subscribes to the current view that there is an increased incidence of tuberculosis among medical personnel, and offers certain suggestions as to measures which might be taken to minimize the risk. No nurse or orderly or ward maid should be permitted to work in a sanatorium before the age of 21. All nurses should be skin tested, x-rayed, weighed, and examined every 4 to 6 months. Vaccination of tuberculin-negative reactors might be considered. Gauze masks should be worn. Hands should be washed when the nurse is through with a patient and uniforms changed before leaving the ward. All dishes should be steam sterilized. Patients should be instructed to cover their mouths with paper napkins when coughing. FRANK G. PEDLEY

An Institutional Outbreak of Poliomyelitis. Silverman, A. C.: *Am. J. Pub. Health,* 1941, **31**: 593.

This article reports 6 cases of poliomyelitis occurring in an orphanage within a period of 4 weeks. Four of the cases were in infants under two years of age, two were adults, attendants in the orphanage. Three of the infants had paralysis or weakness of the muscles of one or other of the extremities one infant had facial paralysis. Of the two adults one had weakness of the right quadriceps muscle; the other had had poliomyelitis 18 years previously with residual paralysis but no new paralysis. Her diagnosis was based on headache, fever, stiffness of the neck and tenderness of the right calf and thigh and a spinal cell count of 130 cells.

An effort was made to recover poliomyelitis virus from the stools in all cases. One laboratory reported negative results in all cases. Another reported positive results in four and a third laboratory reported positive results in the non-paralytic adult.

The unusual features of the outbreak were: (1) the unusual season (March and April), and (2) the fact that no cases were known to have occurred in the community. The investigation indicated that the disease could have been spread by direct contact. FRANK G. PEDLEY

Obituaries

Dr. Charles Clifford Archibald, of Truro, N.S., died at the Montreal General Hospital, September 6th. He had been in poor health for some years but death came suddenly. He was 63. Born in Musquodoboit, N.S., Dr. Archibald graduated from Dalhousie, in Medicine, in 1902. He spent several years in practice on the Labrador coast and later at Bear River, N.S. Through the first world war he served with the Royal Canadian Army Medical Corps. At its conclusion, after special study, he returned to Charlottetown where he specialized in diseases of the eye, ear, nose and throat. He had been practising in Truro since 1934.

Dr. Cedric Hughes Archibald, 47, assistant psychiatrist in the Pensions and National Health Department, died on September 5th after a short illness.

Dr. Archibald was born at Antigonish, N.S., in 1894 and received his early education there. Later he attended the University of Toronto where he graduated in medicine in 1918.

He went overseas in 1914 with the 2nd Canadian Field Ambulance, first contingent, and was in Europe from 1927 to 1930 with the Canadian Immigration Medical Service. On his return to Canada he was appointed assistant to Dr. J. P. S. Cathcart, chief neuro-psychiatrist of the health department.

Survivors include his widow, a son, two brothers and three sisters.

Dr. Edward Payson Atkinson, of Oxford, N.S., died at the All Saints Hospital, Springhill, July 22nd. Death followed an automobile accident. Dr. Atkinson was 76 years of age and the last member of the Dalhousie Medical Class of 1899. He was born in Tidnish, N.B. For many years the people of Cumberland County have felt the benefits of his faithful service and rich experience.

Dr. George Maitland Biggs, professor emeritus of the University of Toronto, died August 23rd at the Toronto General Hospital after an illness of several months. At the time of his retirement last April he was chief of services in the department of otolaryngology at the Toronto General.

Dr. Biggs was born in Winnipeg in 1881, and was the son of the late Hon. S. C. Biggs. He graduated from the University of Toronto in medicine in 1904. For more than 30 years he had been on the staff at